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09/546,184	04/10/2000	Yashiko Wakabayashi	017446/0301	3000

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EXAMINER

YEH, EDITH M

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/546,184

Applicant(s)

WAKABAYASHI, YASHIKO

Examiner

Edith M Yeh

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 10 April 2000 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 7 & 8 are objected to because of the following informalities:

Claim 7, line 1, the term "A circuit according to claim 4" should be "An equalizing method according to claim 6".

Claim 8, line 1, the term "A circuit according to claim 5" should be "An equalizing method according to claim 7".

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, & 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uesugi et al. (US 5563911) in view of Kucar (US 5115454).

Regarding **claims 1 & 6**, Uesugi et al. discloses an equalizer circuit and it method, the circuit comprising: first and second equalizing means (33 & 34 FIG.5) for equalizing the reception signal (column 4 lines 15-28); control means (35 FIG.5) for alternately enabling the first and second equalizing means every frame reception (column 5 lines 62-64) wherein the equalizing means 34 handling the frame B (B FIG.1, reference signal + latter half data) and equalizing means 33 handling the frame A (A FIG.1,

reference signal + former half data); switching means (35 FIG.5) for alternately switching between outputs from the first and second equalizing means every frame reception and outputting the selected output as demodulation data (31, 35, 36-37 FIG.5, column 3 line 67-column 4 line 10); and a memory (32 FIG.5) storing the reception signals (column 4 line 14-24), however Uesugi et al. **does not specify** a means for sensing the start of a reception signal on the basis of a signal representing a reception level of the reception signal. Kucar teaches a carrier sensing means (114,116 Fig.5 '454) for sensing the reception signal on the reception level (column 7 lines 45-60 '454). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the carrier sensing means taught by Kucar in Uesugi et al.'s data receiver apparatus, wherein the timing of the carrier sensing means can be inputted (as the signal part/frame show in FIG. 1 '911), the sense signals are stored in memory 32 (FIG.5 '911) then outputted to the controller (35 FIG.7 '911) to improve the data detection for digital data (Abstract '454).

Regarding **claims 2 & 7**, Uesugi et al. discloses the control means (32, 35 FIG.5 '911) receiving the output of the sensing means (114, 116 Fig.5 '454) alternately outputs first and second sense signals to the first and second equalizing means (33&34 FIG.5) for a time interval from time when the detection signal is output from the carrier sensing means to time when equalizing processing is complete in the first and second equalizing means as indicated in the modified apparatus of claim 1 rejection, and the first and second equalizing means equalize the reception signal in response to first and second sense signals from the control means (FIG.7 '454).

4. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Uesugi et al. (US 5563911) in view of Kucar (US 5115454), further in view of Fudawa et al. (US 5710792).

Further Fudawa et al. teaches the adaptive equalizer comprising equalizer (10 FIG.4) for setting tap coefficients (19 FIG.4) and memories for storing preamble signals (11 FIG.4), detecting frequency offset values (23 FIG.4, Abstract), estimate transmission line characteristics (18 FIG.4, Abstract), and set the tap coefficients (19 FIG.4) at the start of reception of the reception signal (FIG.2). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to replace the equalizer of Uesugi et al. with the adaptive equalizer taught by Fudawa et al. to suppress transmission distortion (column 1 lines 5-7, '792) wherein the transmission distortion is the waveform distortion that Uesugi et al. tries to compensate (column 2 lines 48-53 '911).

Allowable Subject Matter

5. Claims 3-4, & 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Yeh whose telephone number is 703-305-3416. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4800.

Edith Yeh
May 15, 2003



STEPHEN CHIN
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